ORIGINAL ARTICLE

Depressive symptoms, depression, and the effect of biologic therapy among patients in Psoriasis Longitudinal Assessment and Registry (PSOLAR)

Bruce Strober, MD, PhD,[a,b] Melinda Gooderham, MD, MSc,[c,d] Elke M. G. J. de Jong, MD, PhD,[e] Alexa B. Kimball, MD, MPH,[f] Richard G. Langley, MD, FRCPC,[g] Nikita Lakdawala, MD,[h] Kavitha Goyal, MD,[i] Fabio Lawson, MD,[i] Wayne Langholff, PhD,[j] Lori Hopkins, PharmD,[i] Steve Fakharzadeh, MD, PhD,[i] Bhaskar Srivastava, MD, PhD,[i] and Alan Menter, MD[k]

Farmington, Connecticut; Waterloo, Kingston, and Peterborough, Ontario, and Halifax, Nova Scotia, Canada; Nijmegen, The Netherlands; Boston, Massachusetts; Milwaukee, Wisconsin; Horsham and Spring Horse, Pennsylvania; and Dallas, Texas

Background: Patients with psoriasis are at an increased risk for depression. However, the impact of treatment on this risk is unclear.

Objective: Evaluate the incidence and impact of treatment on depression among patients with moderate-to-severe psoriasis.

From the University of Connecticut Health Center, Farmington[a]; Probity Medical Research, Waterloo[b]; Queen's University, Kingston[c]; and SKiN Centre for Dermatology, Peterborough, Ontario[d]; Radboud University Medical Center and Radboud University, Nijmegen[e]; Beth Israel Deaconess Hospital and Harvard Medical School, Boston[f]; Dalhousie University, Halifax[g]; Medical College of Wisconsin, Milwaukee[h]; Janssen Scientific Affairs, LLC, Horsham[i]; Janssen Research & Development, LLC, Spring House[j]; Baylor University Medical Center at Dallas.[k]

Supported by Janssen Scientific Affairs, LLC.

Disclosure: Dr Strober has received honoraria from AbbVie, Almirall, Amgen, Boehringer Ingelheim, Celgene Corporation, Dermira, Eli Lilly and Company, Janssen-Ortho, Leo Pharma, Merck and Company, Maruho Company, Novartis Pharmaceuticals Corporation, Pfizer, Sanofi/Regeneron, Sun Pharmaceutical Industries, and UCB for services as a consultant, advisory board member, and/or principal investigator. Dr Gooderham has received honoraria from AbbVie, Actelion Pharmaceuticals, Akros Pharma, Amgen, Boehringer Ingelheim International GmbH, Bristol-Myers Squibb Company, Celgene Corporation, Dermira, Eli Lilly and Company, Galderma SA, GlaxoSmithKline, Janssen Pharmaceuticals, Leo Pharma, MedImmune, Novartis Pharmaceuticals Corporation, Pfizer, Regeneron Pharmaceuticals, Roche Laboratories, Sanofi Genzyme, UCB, and Valeant Pharmaceuticals for services as a consultant, advisory board member, principal investigator, and/or speaker. Dr de Jong has received research grants or honoraria (paid to either him or his institution) from AbbVie, Amgen, Celgene Corporation, Eli Lilly and Company, Janssen Pharmaceuticals, Leo Pharma, Novartis Pharmaceuticals Corporation, and Pfizer for services as a consultant and/or speaker. Dr Kimball has received grants and/or honoraria (paid to either her or her institution) from AbbVie, Bristol-Myers Squibb Company, Dermira, UCB, Eli Lilly and Company, Janssen Pharmaceuticals, Novartis Pharmaceuticals Corporation, and Regeneron Pharmaceuticals for services as a consultant and/or principal investigator. Dr Langley has received honoraria from AbbVie, Amgen, Centocor, Pfizer, Janssen Pharmaceuticals, Leo Pharma, Boehringer Ingelheim International GmbH, Eli Lilly and Company, and Valeant Pharmaceuticals for serving as an advisory board member, principal investigator, and/or speaker. Drs Goyal, Lawson, Langholff, Hopkins, Fakharzadeh, and Srivastava are all employees of either Janssen Scientific Affairs or Janssen Research & Development and own stock/stock options in the company. Dr Menter has received either grants or honoraria from AbbVie, Allergan, Amgen, Anacor, Boehringer Ingelheim International GmbH, Celgene Corporation, Dermira, Eli Lilly and Company, Galderma SA, Janssen Biotech, Leo Pharma, Merck & Company, Neothetics, Novartis Pharmaceuticals Corporation, Pfizer, Regeneron Pharmaceuticals, Symbio/Maruho Company, Vitae, and Xenoport for serving as a consultant, advisory board member, principal investigator, and/or speaker. Dr Lakdawala has no conflicts of interests to declare.

This work was submitted to and presented in part at the 75th Annual Meeting of the American Academy of Dermatology, Orlando, FL; March 3-7, 2017.

Accepted for publication August 24, 2017.

Correspondence to: Bruce Strober, MD, PhD, Department of Dermatology, University of Connecticut Health Center, 21 South Rd, 2nd Floor, Farmington, CT 06030. E-mail: strober@uchc.edu.

Published online October 25, 2017.

0190-9622

http://dx.doi.org/10.1016/j.jaad.2017.08.051

Methods: We defined a study population within the Psoriasis Longitudinal Assessment and Registry and measured the incidence of depressive symptoms (Hospital Anxiety and Depression Scale—Depression score ≥8) and adverse events (AEs) of depression within cohorts receiving biologics, conventional systemic therapies, or phototherapy. Patients were evaluated at approximately 6-month intervals. Multivariate modeling determined the impact of treatment on risk.

Results: The incidence rates of depressive symptoms were 3.01 per 100 patient-years (PYs) (95% confidence interval [CI], 2.73-3.32), 5.85 per 100 PYs (95% CI, 4.29-7.97), and 5.70 per 100 PYs (95% CI, 4.58-7.10) for biologics, phototherapy, and conventional therapy, respectively. Compared with conventional therapy, biologics reduced the risk for depressive symptoms (hazard ratio, 0.76; 95% CI, 0.59-0.98), whereas phototherapy did not (hazard ratio, 1.05; 95% CI, 0.71-1.54). The incidence rates for AEs of depression were 0.21 per 100 PYs (95% CI, 0.15-0.31) for biologics, 0.55 per 100 PYs (95% CI, 0.21-1.47) for phototherapy, and 0.14 per 100 PYs (95% CI, 0.03-0.55) for conventional therapy; the fact that there were too few events (37 AEs) precluded modeling.

Limitations: Incomplete capture of depression and confounders in the patients on registry.

Conclusion: Compared with conventional therapy, biologics appear to be associated with a lower incidence of depressive symptoms among patients with psoriasis. (J Am Acad Dermatol http://dx.doi.org/10.1016/j.jaad.2017.08.051.)

Key words: biologic therapy; depression; phototherapy; PSOLAR; psoriasis; systemic therapy.

Several studies have documented an increased risk for depression and suicidality among patients with psoriasis. Cross-sectional studies with relatively small sample sizes have noted a high prevalence of depression (>60%) and suicidality (>7%) among patients with psoriasis.[1,2] A large cohort study in the General Practice Research Database found an increased risk for depression, anxiety, and suicidality among patients with psoriasis; depression and suicidality risks were higher for patients with severe disease.[3] Another large cohort analysis, using data from the Nurses' Health Study, found an increased risk for depression in women with psoriasis and psoriatic arthritis.[4] A recent meta-analysis reported similar findings, indicating that patients with psoriasis were at least 1.5 times more likely to experience depression than patients without psoriasis.[5]

Depressive symptoms, as opposed to depression, are assessed by the Hospital Anxiety and Depression Scale—Depression (HADS-D) (Table I). Data from clinical trials support a reduction in depressive symptoms with psoriasis treatment. In the pivotal clinical trials for adalimumab, etanercept, ustekinumab, and infliximab, depressive symptoms were decreased.[6-10] However, beyond clinical trials, there is a paucity of well-controlled or real-world data addressing the effect of systemic therapy on comorbid depression and suicidality among patients with psoriasis. Herein we report findings on the prevalence, incidence, and impact of systemic therapy on comorbid depression and depressive symptoms among patients in Psoriasis Longitudinal Assessment and Registry (PSOLAR).[11]

CAPSULE SUMMARY

- Patients with psoriasis have an increased risk for depression/suicidality.
- Biologic agents for psoriasis were associated with a decreased incidence of depressive symptoms versus conventional systemic therapies in the real-world Psoriasis Longitudinal Assessment and Registry.
- Further exploration of the relationship between biologics and depression among patients with psoriasis is warranted to optimize treatment management.

METHODS

Study design

A full description of PSOLAR has been reported previously.[11,12] Briefly, PSOLAR is a prospective, longitudinal, disease-based registry designed to collect safety, efficacy, and health outcomes data from approximately 12,000 patients with psoriasis in 16 countries who are receiving, or are eligible to receive, conventional systemic or biologic therapies. All patients provided written informed consent before the start of the study, and an institutional review board or ethics committee approved the registry protocol at participating sites. This cohort analysis used data obtained through August 23, 2015.